



#13

Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.
Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

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1 TTGCTGACTC ATGTGCCCCG AGCTAGCAGG AGCTGGCAGC ATGGGCTCCC
51 CAGGGGGCTAC GACAGGCTGG GGGCTTCTGG ATTATAAGAC GGAGAAAGTGG
101 GCTCTCCTCG CCAAAAAAGG CTACCAGGAG CGGGACCTGG AACCCAGTT
151 TTCCATCATC ACCAAACTCA AAGGGGTTTC CGTCACTCAG ATCAAGGAGC
201 TTGGAACCGG GCTGTGGGAT GTGGCCGACT TCGTGAAGCC ACCTCAGGGA
251 GAGAACGTGT TCTTCTTGGT GACCAACTTC CTTGTGACGC CAGCCCAAGT
301 TCAGGGCAGA TGCCCGAGAG ACCCGTCCGT CCCACTGGCT AACTGCTGGG
351 TCGACGAGGA CTGCCCCGAA GGGGAGGGAG GCACACACAG CCACGGTGTA
401 AAAACAGGCC AGTGTGTGGT GTTCAATGGG ACCCACAGGA CCTGTGAGAT
451 CTGGAGTTGG TGCCCAAGTG AGAGTGGCGT TGTGCCCTCG AGGCCCTGCG
501 TGGCCACAGC CGGCAACTTC ACACGTTCCT TCAAAAACAC AGTCACCTTC
551 AGCAAGTTCA ACTTCTCTAA GTCCAATGCC TTGGAGACCT GGGACCCAC
601 CTATTTTAAAG CACTGCCGCT ATGAACCACA ATTCAGCCCC TACTGTCCCCG
651 TGTTCGCGAT TGGGGACCTC GTGGCCAAGG CTGGAGGGAC CTTGAGGAC
701 CTGGCGTTGC TGGGTGGCTC TGTAGGCATC AGAGTTCACT GGGATTGTGA
751 CCTGGACACC GGGGACTCTG GCTGCTGGCC TCACTACTCC TTCCAGCTGC
801 AGGAGAAGAG CTACAACCTC AGGACAGCCA CTCCTGGTG GGAGCAACCG
851 GGTGTGGAGG CCCGCACCCT GCTCAAGCTC TATGGAATCC GCTTCGACAT
901 CCTCGTCCCT GGGCAGGCAG GGAAGTTCGG GCTCATCCCC ACGGCCGTCA
951 CACTGGGCAC CGGGGCAGCT TGGCTGGGCG TGGTCACCTT TTTCTGTGAC
1001 CTGCTACTGC TGTATGTGGA TAGAGAAGCC CATTCTACT GGAGGACAAA
1051 GTATGAGGAG GCCAAGGCCC CGAAAGCAAC CGCCAACCTC GTGTGGAGGG
1101 AGCTGGCCCT TGCATCCCAA GCCCGACTGG CCGAGTGCTC CAGACGGAGC
1151 TCAGCACCTG CACCCACGGC CACTGCTGCT GGGAGTCAGA CACAGACACC
1201 AGGATGGCCC TGTCCAAGTT CTGACACCCA CTTGCCAACC CATTCGGGA
1251 GCCTGTAGCC GTTCCCTGCT GGTGTGAGAGT TGGGGGCTGG GAAGGGCGGG
1301 GCCTGTCCCT GGGATCTCAA GGATGAGGCC CCAGCATGGA GGATTGGGG
1351 TAGAATTCCA CCCTTGAACC CCAGCAGACA GTCCCTCCCC TGAATCCAC
1401 CTTGGTAGGG TGCTGCCTCA GGGAGCCATA GAAGTCGGCT GTGTTTGTAG
1451 ACGGCGACAG AACCTGACCC GTGGAGACTG GGAGAGCCCA GCAGGCACCT
1501 GTATTGCGAG GGTCCGACTG CATGTGGCAG GGGCTCCTGC TGCGTCTGGG
1551 CCTGGAGGTC TCTCTCCAG TGCTCTGTCC CCAGTGTTC TAGCAGAGGT
1601 ATGCTTACCA GCTGTGAGCA CAGACCTCC TGCTGCCTGG GTCCTGGCCC
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1701 GGTCTACAT GGGGCTGTGC AGCTGGAGCC AAAAAAGCAA GGCAGAAAGA
1751 GGAGTGATGG GGGAGGGGGA TTGTTTCAGC TTCTCTGGTG CTGTGATGCC
1801 CCAGGAGAGT CTAATCTAG GGAATGGGGT GGAGTAGGCA GATAATCCAC
1851 CTCCTATCC CCCAGGCAAG GCGGAGCAT GTGTCTTGG CCCACACCTG
1901 CTTAGTTTAT GAGGACCGGC TGCTTCCAG TGGTAGCCTT TTTGCCATGG
1951 AGGTCTGGGA GAGAGAGCAG AGGGCGGCAG GGCTAAGTTG GTGATCATTG
2001 GGTCTTCTAG GACCTTCTAT ATCCCTCCTC GGTAACCCCC CAGCCCAACC
2051 CTTGGAATC TTTCTCCAG GCTTCTCTAG AGCCTGGGG GTGGGAGGCT
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2351 ACTGTGGGTA CCTGGTGATC AGGGCAAGCT GTGGAGGGCC AGGGGTGGGG
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2501 GAGGTGGGCT TGAAGGGCG AAGGTGGGAG AGCAGGGCCC CTGAGGCTG
2551 GGTATCCAAG GAGGGGCACG TGCACCTGAT TCTCCTTGGG GCCCAGAGGA
2601 AGCTGATGTC ATGGCTGGAC AAAGTCACGG AGTAAAGCCA GCAAAGCCAC
2651 CAAAAA AAAA AAAA AAAA AAAA
```

(SEQ ID NO: 1)

FEATURES:

5'UTR: 1 - 40
Start Codon: 41
Stop Codon: 1256
3'UTR: 1259

FIGURE 1A



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HOMOLOGOUS PROTEIN:
Top 10 BLAST Hits:

	Score (bits)	E Value
Sequences producing significant alignments:		
CRA 18000005098398 /altid=gi 4885535 /def=ref NP_005437.1 puri...	857	0.0
CRA 335001098681202 /altid=gi 11417813 /def=ref XP_009854.1 pu...	857	0.0
CRA 1000682348238 /altid=gi 6469324 /def=gb AAF13303.1 AF065385...	855	0.0
CRA 18000005129684 /altid=gi 6754966 /def=ref NP_035158.1 puri...	621	e-177
CRA 18000005027891 /altid=gi 6981322 /def=ref NP_036853.1 p2X6...	604	e-172
CRA 148000001425983 /altid=gi 7920253 /def=gb AAF70599.1 AF2050...	360	2e-98
CRA 18000005038217 /altid=gi 7447773 /def=pir S71344 purinergi...	348	8e-95
CRA 18000005027890 /altid=gi 1709522 /def=sp P51578 P2X5_RAT P2...	345	7e-94
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EST:

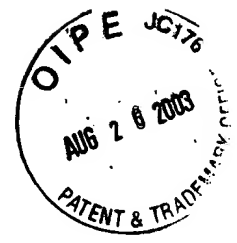
	Score (bits)	E Value
Sequences producing significant alignments:		
gi 11617343 /dataset=dbest /taxon=96...	1164	0.0
gi 6992441 /dataset=dbest /taxon=960...	648	0.0
gi 4990980 /dataset=dbest /taxon=9606 ...	579	e-163
gi 10325489 /dataset=dbest /taxon=96...	464	e-128
gi 2195075 /dataset=dbest /taxon=9606 ...	287	4e-75

EXPRESSION INFORMATION FOR MODULATORY USE:

gi|11617343 Brain- anaplastic oligodendroglioma
gi|6992441 Chronic lymphocytic leukemia
gi|4990980 Lung- carcinoid
gi|10325489 lung - large cell carcinoma
gi|2195075 Colon

Tissue expression:
Whole brain

FIGURE 1B



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1 MGSPGATTGW GLLDYKTEKW ALLAKKGYQE RDLEPQFSII TKLKGVSVTQ
51 IKELGNRLWD VADFKVPPQG ENVFFLVTFN LVTQAQVQGR CPEHPSVPLA
101 NCWVDEDCPE GEGGTHSHGV KTGQCVVFNG THRTCEIWSW CPVESGVVPS
151 RPLLAQAQNF TLFIKNTVTF SKFNFSKSNA LETWDPTYFK HCRYEPQFSP
201 YCPVFRIGDL VAKAGGTFFED LALLGGSVGI RVHWDCDLDT GDSGCWPHYS
251 FQLQEKSYNF RTATHWWEQP GVEARTLLKL YGIRFDILVT GQAGKFGLIP
301 TAVTLGTGAA WLGVVTFFFCD LLLLYVDREA HFYWRTKYEE AKAPKATANS
351 VWRELALASQ ARLAELRRS SAPAPTATAA GSQTQTPGWP CPSSDTHLPT
401 HSGSL (SEQ ID NO: 2)

FEATURES:

Functional domains and key regions:

[1] PDOC00001 PS00001 ASN_GLYCOSYLATION
N-glycosylation site

Number of matches: 3

1 129-132 NGTH
2 159-162 NFTL
3 174-177 NFSK

[2] PDOC00004 PS00004 CAMP_PHOSPHO_SITE
cAMP- and cGMP-dependent protein kinase phosphorylation site

368-371 RRSS

[3] PDOC00005 PS00005 PKC_PHOSPHO_SITE
Protein kinase C phosphorylation site

Number of matches: 2

1 17-19 TEK
2 131-133 THR

[4] PDOC00006 PS00006 CK2_PHOSPHO_SITE
Casein kinase II phosphorylation site

Number of matches: 2

1 217-220 TFED
2 336-339 TKYE

[5] PDOC00008 PS00008 MYRISTYL
N-myristoylation site

Number of matches: 10

1 2-7 GSPGAT
2 5-10 GATTGW
3 45-50 GVSVTQ
4 113-118 GGTHSH
5 119-124 GVKTGQ
6 130-135 GTHRTC
7 146-151 GVVPSR
8 225-230 GGSVGI
9 297-302 GLIPTA
10 306-311 GTGAAG

[6] PDOC00932 PS01212 P2X_RECEPTOR
ATP P2X receptors signature

225-251 GGSVGIRVHWDCDLDTGDSGCWPHYSF

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	69	89	0.782	Putative
2	299	319	1.835	Certain

BLAST Alignment to Top Hit:

>CRA|18000005098398 /altid=gi|4885535 /def=ref|NP_005437.1|
purinergic receptor P2X-like 1, orphan receptor; P2X
specifically expressed in skeletal muscle; purinoceptor
P2X6 [Homo sapiens] /org=Homo sapiens /taxon=9606

FIGURE 2A



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/dataset=nraa /length=431
Length = 431
Score = 857 bits (2189), Expect = 0.0
Identities = 405/431 (93%), Positives = 405/431 (93%), Gaps = 26/431 (6%)

Query: 1  MGSPGATTGWGLLDYKTEK-----WALLAKKGYQERDLE 34
        MGSPGATTGWGLLDYKTEK                WALLAKKGYQERDLE
Sbjct: 1  MGSPGATTGWGLLDYKTEKYVMTRNWRVGALQRLQFGIVVYVVGWALLAKKGYQERDLE 60

Query: 35  PQFSIITKLKGVSVTQIKELGNRLWDVADFVKPPQGENVFFLVTNFLVTPAQVQGRCPHEH 94
        PQFSIITKLKGVSVTQIKELGNRLWDVADFVKPPQGENVFFLVTNFLVTPAQVQGRCPHEH
Sbjct: 61  PQFSIITKLKGVSVTQIKELGNRLWDVADFVKPPQGENVFFLVTNFLVTPAQVQGRCPHEH 120

Query: 95  PSVPLANCWVDEDCPEGEGGTHSHGVKTGQCVVFNGTHRTCEIWSWCPVESGVVPSRPLL 154
        PSVPLANCWVDEDCPEGEGGTHSHGVKTGQCVVFNGTHRTCEIWSWCPVESGVVPSRPLL
Sbjct: 121 PSVPLANCWVDEDCPEGEGGTHSHGVKTGQCVVFNGTHRTCEIWSWCPVESGVVPSRPLL 180

Query: 155  AQAQNFTLFIKNTVTFSKFNFSKSNALETWDPTYFKHCRYEPQFSPYCPVFRIGDLVAKA 214
        AQAQNFTLFIKNTVTFSKFNFSKSNALETWDPTYFKHCRYEPQFSPYCPVFRIGDLVAKA
Sbjct: 181  AQAQNFTLFIKNTVTFSKFNFSKSNALETWDPTYFKHCRYEPQFSPYCPVFRIGDLVAKA 240

Query: 215  GGTTFEDLALLGGSVGIRVHWDCLDLDGSGCWPWFYFQLEKSYNFRATATHWWEQPGVEA 274
        GGTTFEDLALLGGSVGIRVHWDCLDLDGSGCWPWFYFQLEKSYNFRATATHWWEQPGVEA
Sbjct: 241  GGTTFEDLALLGGSVGIRVHWDCLDLDGSGCWPWFYFQLEKSYNFRATATHWWEQPGVEA 300

Query: 275  RTLLKLYGIRFDILVTGQAGKFLIPTAVTLGTGAAWLGVVTFCCDLLLHYVDREAHFYW 334
        RTLLKLYGIRFDILVTGQAGKFLIPTAVTLGTGAAWLGVVTFCCDLLLHYVDREAHFYW
Sbjct: 301  RTLLKLYGIRFDILVTGQAGKFLIPTAVTLGTGAAWLGVVTFCCDLLLHYVDREAHFYW 360

Query: 335  RTKYEEAKAPKATANSVWRELALASQARLAELRRSSAPAPTATAAGSQTQTPGWPCPSS 394
        RTKYEEAKAPKATANSVWRELALASQARLAELRRSSAPAPTATAAGSQTQTPGWPCPSS
Sbjct: 361  RTKYEEAKAPKATANSVWRELALASQARLAELRRSSAPAPTATAAGSQTQTPGWPCPSS 420

Query: 395  DTHLPTHSGSL 405
        DTHLPTHSGSL
Sbjct: 421  DTHLPTHSGSL 431 (SEQ ID NO: 4)
```

Hammer search results (Pfam):

Scores for sequence family classification (score includes all domains):

Model	Description	Score	E-value	N
CE00369	E00369 P2X6_receptor	1180.5	0	2
PF00864	ATP P2X receptor	870.0	7.4e-258	1
CE00207	CE00207 PURINERGIC	366.8	5.9e-111	1
CE00370	E00370 P2X4_receptor	336.8	1.9e-109	1
CE00368	E00368 P2X7_receptor	124.1	6.5e-36	1
PF00095	WAP-type (Whey Acidic Protein) 'four-disulfi	8.7	1.1	1
PF01841	Transglutaminase-like superfamily	6.0	6.3	1
PF01368	DHH family	2.5	6.8	1

Parsed for domains:

Model	Domain	seq-f	seq-t	hmm-f	hmm-t	score	E-value
CE00369	1/2	1	19	1	21	36.3	2.1e-11
PF00095	1/1	87	111	1	40	8.7	1.1
PF01841	1/1	120	130	1	11	6.0	6.3
PF01368	1/1	221	237	1	19	2.5	6.8
CE00368	1/1	54	299	85	333	124.1	6.5e-36
CE00370	1/1	20	338	46	372	336.8	1.9e-109
CE00207	1/1	20	345	47	393	366.8	5.9e-111
CE00369	2/2	20	351	48	379	1143.5	0
PF00864	1/1	20	354	34	395	870.0	7.4e-258

FIGURE 2B



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1 TCTCCAAGTC CATGGGTGCC TGGTAGGAGA CAGGGGGATG AATGTGAACC
51 CCTGCATGGC TATAGCCACC TGCCTCCTCC CCTGCCCTGC ATCACTACCT
101 GGCCTATTTT TTGCTCTAG AAGCACTGCT TCCTATGCTC CTTAGGACCA
151 CTGCCCCGAT ATGACAGATA AGAACATCGA GGCTAAGGCA ACGCAAATCT
201 TTTCTTAAA GTCATACAGC TGTCAAAAGA AAGCTGGACA ACCTGGGCAA
251 CATAGCGAGA TAAAAAATTA TTTAAATTAG CCAGATGTGG TAGCCCCCTG
301 TAGTCTCAGC GACTCAGGAG GCTGAGGCAG GAGGCTCACC AGAGTGCAGA
351 GTTCAAGGAT GCAGTGAGCT ATGATCCTGC CACTGCACTG AAAGCTGGGT
401 GACAGAGCAA GACCCTGGCT CTAATAAATG AATACATAAA GTCTCACAGC
451 TAGTGGTAGC TAATCCTGCC AGAGTCAGGC CTCTACCTGT CTGATGACAA
501 ATGGCACACT ATGTCTTTTA ACCTGATTGC AGACCACAAA TGTTTTGTGA
551 ATATTTTCCC CAGGGAAAAA ACCGGAAGTA GTTCTAAATT CTATACATCC
601 ATTATATTAG TTTTACCTGT GGATTGGGAA AACCAGCTC TGATTGCATT
651 TCAGGGCGGG ACAGCCTTTG GTGCACTGTC TGGCGGGATT TTCCATTTTA
701 ACCTCCTTCT AGAAGCGCCT TCTCATGGTA AAGTTCTCTA TGCCGCCAGG
751 AGCGCCGAGG AGAGGGCAGG GGGCTGGAGA CGCCCCGCAG AGGGCTACGT
801 GCCTTGCTGG ACAGAGGTCT CCTGCCTCCT CGGCGGCGCC AGCCCACTC
851 CCACAACCCC TGCGGGAGAA GCCCCCAAGG GGAGGAGACG GGCTTGGCCC
901 CTGCCCCGAG CACCTTCCGT CTCTAGGTCG GAGTCTGAAT CGGCCTTGGG
951 ACCCTGCTTG GCTTCGGGGA CCCCTGCAAG ACGTCCACAG GCCGCCGTG
1001 CCTCTTCTCT CTGCTTTTTA TCCTCCCCAG ACCTCTGGCA GGAACCGCTC
1051 ATCGTTACGC CCCTTTCGCA GCCTCAGACC CTGAGGCGGA GACCGCTTGG
1101 CGCCTCACTT AGAGCGCGAC CCGGGATGT GGGCGGAGT TGCGGCTGCG
1151 CTGACCAATC GAGTGTGGCG TCCATCGACT GCGCTCTGCC ACGGCAATTA
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1301 AAACCTGACG CGCCACGGGC TATGCACTGG GCTGGGCGCC TTGTGGGCAT
1351 CCTCCCTGCC TTCCTAGGGG GTTCCAGCAT CGCCCCCTT TCGTGGACTG
1401 GGAACACGCG CTGACTCCAG GACTTGTGTT GTCTCACTG CACTGGGGAA
1451 GGTGGCGGGG GCAGCTTTTC AGGAGGGCCT GGGGAACCTC GCAGAGCCAG
1501 GTCAACCTCT CACTCTGTGC CTCTTAGTTA TCTTGATGTC TCTGGCTTT
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1651 GAAGCTTTCC TCAACACCTT CCCC GCCCTG CTGCTGCTGC CCTCAGGCCC
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1751 CCACTCCAC CCCAGGAAGT GAGGCCAGAG GGCAGGGACA GAGCTGCTGC
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2401 AGGCCCCACC CAGGGGGCAC ATGACATAGT CCTTAACATC TGTGAGAGCT
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3351 GAGGTGGAGC TTGCAGTGAG CCGAGATTGC ACCACTGCAC TCCAGCCTGG
3401 GTGGCAAAGC GAGACTCTGT CTCAAAAAAA AAAAAAAGG GCCAGGCCAG
3451 AGAAACTGCA TTTCCAAGA CTGCCAACAG AAAAGAAGGG AGTGTCCAGG

FIGURE 3A

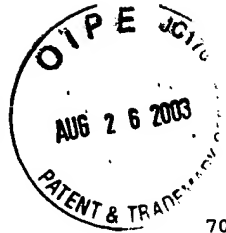
017-5376
AUG 26 2003
PATENT & TRADEMARK

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Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

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3501 ACTAATGGCT TGAGCTTGAG AGTGGTGTGA GGTGCTGGGG CATGGAACCTT
3551 CCCTGTAGCC CTGCTCCCTG ACCTGGGGCA CTACGGTCAG GTGCTGCTCC
3601 TCCCCCTCTTC TCGGCTGCGT TTTCTCTCTC CCTCCACCCA GCTCATCCCC
3651 AGCCTCAACT GCCACTTCTG CTCCTCTGAT GCCAGGGTG TATTTCCAGT
3701 GATCACTGCG CCAGAGCACA GCTGTCTTCT AGGTGCACAC CCACATGTCC
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3801 TCATGGTGGC TGTGACATCC ACTAGTGCCT CAGCCAGACC CGTGACTCAC
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3951 GCCTCTCTCC TTA CTGCTCG GTGCACACCA CGCAGCAGCC AAGCTGAAC
4001 TTCACACCAG GGCATATGAG AGCCTGCAGC GCCTGCTTCT ACCCTCAGGA
4051 ATTCCCCCAA CCCTGCCCCT GACGGTGTCC AACTTTTCTT CCCAATCCTA
4101 ATGGCTGCCA CTCCCAGCAC CATCTGGCCA GCCCTCACCT TCCCTTCCTG
4151 GGCATACATT CCCCAAATTC ACAGTGTCTT CACGAGCAGC ACTGGAGGGT
4201 CAGCCTTTCT TTCCAATGTC CTCGGCCACC CGTTGACCAC AGACACAGCT
4251 TTCCCTCTTC TCCCTTGGCC CCTGCCATGC CAGTGTGTGTA GTGTGTGAGA
4301 TGGGAGACTC ACCTCGTCTC CATCTGAGC AGGTGCTGGG CCCAGCTCTC
4351 CCTTGGATCT TCAGTACTAG AAGCAGCAGG CTGTTGGAAT ATTCTGGTTG
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4451 AGGCAGGAGG ACCTCTTGAG TCCAGGAGTT AGAGGTTGCA GTGAGCACTG
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4551 AATACACACA TACACATGCA CACACACACA CAAATTTTGG TTGAGACAAG
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4651 ATGGCCAGAA CCACTGCCAG CCTCCCATCT CTGCTTCAGT CTGCCTTACA
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5001 GTGCTCGGTC TCCCCCAGGC ACTGGGCTAC ATCTTTTCTT GAATCATTAT
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5201 CATGAGGTGT CCAGGCCCTC CCATCTGGT CCTGCCTCTG GGTACTCTCC
5251 AGGTTGGTAG TGTGACACCC AGAGCTGCGC ACATGCTCAG GGAGGTTCTA
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5351 CTATTAATAT GTCTGAGGC AGCTTTCATC TTTGTGGGCC AACACAGCAC
5401 ACTCTTGTCT ATGGTGAATT CAGGATTGCT TATGATTCTT GGATAGTTT
5451 TTTTGTTTTA TTTTGTAGAC GGAGTTTCAC TCTGTACCC ACCTGGAGT
5501 GCAGTGGCAG ATATCAGCTC ACTGCAAGCT CTGCCTCTCA GGTTCACGCC
5551 ATTCTCTGCT CTCAGCCTCC GGAGTAGCTG TACTACAGG CGCCTGCCAC
5601 CAGCCGAGC TAATTTTCTT TTTTCTTGT ATTTTATAGT GAGACGGGGT
5651 TTCACGGTGT TAGCCAGGAT GGTCTCCATC TCCTGACCTC ATGATCCACC
5701 TGCCTCGGCC TCCCAAAGTG CTGGGATTAC AGGCGTGAGC CACCACGCCC
5751 GGCCTGATT CTGGATAGTT TTTACATCAA CCGTGGTCAA GCCAGAGTCC
5801 CCCACCTTGT TCTTCTTCAT TTCTGATCCA GAAATGTGA TTCTCCCCCT
5851 GACATTTTCA CTTTTCCCCT TGCCTGGGGA TGTCCCTGGG ATCTGCTCAT
5901 TGTACAGAG CATGCTCATT CTCTCCAGCT GTGAATTTTG TTTGAACTAT
5951 TGGGACTCAG GACATAGTCC TGAAGATTTA CCTCCACAGT GACATCTTTA
6001 GGCAAGTCCA ACATTTACGT GCCTCCTGGG CTGGAGGGTC GTTGTGCAGA
6051 CAGCTGTCCC CTGAGCCCTG GTGGCTGGTC CTAGCACAGT TGCTGGAGAC
6101 ATCCCATGTC CGTAGTTGGA AATATGCACA AAGGATTGCT TACTCTTTTT
6151 GTTTGTTTGT TTTTGTGAGA TGGAGTCTTG CTCTGTGCCC CAAGGCTGGA
6201 GTTCAATGGC ACGATCTCGG CTCACTGCAA CCTCCGCTC CTGGGTTCAA
6251 GCAGTTCTCC TGCTCACCCC CTGAGTAGCT GGGATTACAG GTGCCCGCCA
6301 CTGTGCCCAG CTAATTTTGT TATTTTAAGT AGAGACGGGG TTTCACCATG
6351 TTGGCCAGGC TGGTCTCGAA CTCCTGGCCT CAGGTGACCC ACCAGCCTCG
6401 GCCTCTCAAA GCTCTGGGAT TACAGGCGTG AGCCTGCCGA GAGCTTGGTC
6451 GGGGAGACGT GAACCCAGCG GTGCTAAAGG AATTAAAGAC AAACACACAT
6501 AAATATAGAG GTGTGGAGTG GGAAATCAGG GGTATCACAG CCTTCAGAGC
6551 TGACAGCCTC GAACAGATTT ACCACATAT TTATTGACAG CAAGCCAGTG
6601 ATAAGCATTG TTTCTACCAG ATTATAGATT AACTAAAAGT ATTCCTTATG
6651 GGAAACAAAG GGTAGGGCTC TGGTTGGTTA TCTGCAGCAG GAGCATGTCC
6701 TTAAATCACA GATCGCTCAT GCTATTGTTT GTGGTTTAAG AACGCCTTTA
6751 AGCGGTTTTT CGCCCTGGGT GGGCCAGGTT TTCCTTGCCC TCATTCGGT
6801 AAACCCACAA ACTTCCAGTG TGGGTGTCGT GGCTATCACA AACATGTCAC
6851 AGTGCTGCGA AGATTTGTT TATGGCCAGA TTTTGGGGGC CTCTTCCCAA
6901 CATGAGCCAC TGTGCTTGGC AGGATGTGCT TACTCTTGGT GAACCCACAC
6951 AATGTCTTCT TCTTCTTAA TGCTCAGATG TGCATTTAGT GTTCAGTTTG
```

FIGURE 3B



Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.

Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

```
7001 TAGACCGTTC TGAAATTTGG CTGGATCTGT GGGTCTGTGT TTTTCAGAAT
7051 CTGTGCAATT CCTCTTTGTC TGCAACCACA CTTCTGGCTC TTCCCATGAA
7101 ACGTCAGGGC TGGGTCGTAA TTATCAGATC TGACAACCTG GCTTTCCCGG
7151 AAGACCAGAG TTCTGCCAGC TCCTCTAGGG ATCCTGGTGC CTGATCCCTC
7201 CCTTACATGC ACCATGCTCT TTATAGTGTC ACCTCCCTCA GCAGACACCG
7251 CTGAGCCTCC CCGCTGGGCC AGGGGGCTAG CTAGGCTAAA TTCACAAAAC
7301 TCCATCTCCC ATACTTCAAA GACCACCCAC ATGGACAGCC CAGCCCAGGT
7351 GGCAGGTCCG ATGATGGGAC AGAGGCTGTA GGTGGGGGAC CTAGGGCTGC
7401 ACTTGAGCAG AATCTTTTTT TTTTCTTTCT TTTTCTTTT TTTGAGACAG
7451 AGTCTCGTCT TGTCACCCAG GCTGGAGTGC AGTGGCGTGA TCTCGGCTCA
7501 CTGCACACCT CCACCTCCTT GGTTCGAAGC ATTCTCCTGC CTCAGCCTCC
7551 CAAGTAGGTG GGACTACAGG CACACACCAC CACACTCGGC TAATTTTTGT
7601 ATTTTTAATA GAGACAGGGT TTTGCTGTGT CGGCCAGGCT GGTCTCGAAC
7651 TCCTGACCTC AGGTAATCCG CCCACCTTGG CTTCTCAAAG TGTGGGATT
7701 ACAGGTGTGC CAGGCCAAGC AGAATCTTAA AAAAAGGTGG GGAGAAGCTG
7751 GTGAGCAGGT GGATTTGGTT GAAGCAGGAT GTCGACACAG AGGGGGCTTG
7801 GTGGGTAAAG GCCCTGAGCT GTGTGAGGTG AGGTGCCTTT AGGGCTACCT
7851 GCCACTGGGT GGAGCTGAAG TGAAGATTG GACTGGGGTG GGAAGAAGGT
7901 AGTTCAGGAT TTACAGGGCC CCTGTAAGCC CCACCTAAGGA GCTAAACTGT
7951 TTTTGTTTGT TTGTTTTCTT TTTCTCTTTT CTTTTTTTTT CTGTAGCAAT
8001 GAGGTCTTGC TTTGTTGCCC AGGCTGGTCT CGAACTCCTG AGCTCAGGCA
8051 ATCCGCCCTAC TTTGGACTCT CAAAGTGCTA GGATTACAGG CGTGAGCCAC
8101 TGTGCTCGG AGGAGCTAAA CTTGATTAGA GGAACAGAAG AGAGCCACAC
8151 GTGGGCTCAG AGGCAGGGTG CTCAGTTTCC TGCACATTGG GATGCACCAC
8201 TTGGGCTGCT GGGCATAGGT GGATGAGGGT ATGGGAAGAC GTGGGGGCCC
8251 CACTGGTGGT CACTGTGGGG TCTAGTTGGA GGAGACGGTA GCCCAGCTGG
8301 GGTGAAGAG AGGAGCAGAC ACAGGACATA GGTAGGGACA AAGAAGCAGA
8351 GCATGTGGCT CTGCTCCGAC CTCCACCCAA TCACGACGGC CCTGTCTTTC
8401 AGAAAGTCCC ACCGCCTCAT TCTGGCTTCT CAGAGGCCCT CAGCCTTCTC
8451 TGCGCCCTG GTGCTGGTGT TCTTCCTGCT GCCCTGAGC TGAGTGCCCT
8501 GGGCAGCAGT GTCCATCCTC AGTTGGGGCA GGACCATGCC TGGGAGAGTG
8551 CCCGATGCTC AAGGGTGCCT TCGTCTCTGG GGTCTGGGAC CCCAGAAAGC
8601 TCACCTGTCC TCCCCTTCTG CCAGAGCCCC ATAGTCCCCT GCCTCTGTGC
8651 AGGCATTAAAT GTCCCCAGGT TACAGAAGAG CGAGCAGGAA GGAGTAGCCT
8701 GTGGTCCTCTC AGTCAAGGGTG TGGGTCCTG CTTCAATACC CAAGCCCCTG
8751 ACTCTAGGGC CCTGATCTTT GTCTAGCTATG TCCCCATGCC GGGCATCAAA
8801 AACTCACCTT CCCAAGGTAT CTTACCTTTC CCTGATCTGT CATCCAAATT
8851 GGACCAGAGG AGCTAGACCT GGAAGAATCA CTTCCGCATC CACCAGGGAC
8901 AGAAGTGTCA GGCAGGAAGG GGCAGGGTGC GTTGTCTCAC CCCTGTAATC
8951 CCAGCACTCT GGGAGGCTGA GACAGAAGGA TTGCTTGAGG CCAGGAGTTA
9001 AAAAACCAGC TGGTCAACAT AGCAAGACTC CATCTCTACA AAAAAAAAT
9051 ATTAAAAAAT CAGCCAGGCA CAGTGGTGTG TGTCTGTAGT CCCAGCTACT
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9351 TGGCCCCACA CTCAGGGTAC TCTGGCGGCG GGGTGGTGAG GTTGTTTAAG
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9651 GCTCCTGAGT GCAGGCCCTG CTCGCCTCTG TCCCTGCATC TCTCTTTCTG
9701 CCAACAACCC CTGGCTGAA GGCCTCCCCA GGCCTGCAGA GATTGAAGG
9751 TCTGGAGTTC ATCTTTTGT TTTCTAGGTG AAAAACAGGC CAGTGTGTGG
9801 TGTTCATGAG GACCCACAGG ACCTGTGAGA TCTGGAGTTG GTGCCCCGTG
9851 GAGAGTGGCG TTGTGCCCTC GTAAGTGTCC CCACAATCCC CTACCCCAAC
9901 TGGCGCAGGG CCCCAGGCTT GGCAGAGGCT GTCACCTCCC TCTCACCTGC
9951 AGGAGGCCCC TGCTGGCCCA GGCCAGAAC TTCACACTGT TCATCAAAAA
10001 CACAGTCACT TACAGCAAGT TCAACTTCTC TAAGTAAGCA GAGTGGGTCT
10051 CATCTGCCCC AAGACCTTCC TTGTCCCTCA CCTCATCTGA CCTTTCCAC
10101 TCTCTCCAGG TCCAATGCCT TGGAGACCTG GGACCCACCT TATTTTAAGC
10151 ACTGCCGCTA TGAACCACAA TTCAGCCCTT ACTGTCCCGT GTTCCGCATT
10201 GGGGACCTCG TGGCCAAGGC TGGAGGGACC TTCGAGGACC TGGCGTTGCT
10251 GGTGGGTCCC AAGTTGGGGG CAGGGTTCCT AGAGGGCTCT GGGAGAGGGT
10301 CCGGGGCCCA CCCACGGTG GAAAAGCTAT GTGCTATGTG CAGGGTGGCT
10351 CTGTAGGCAT CAGAGTTCAC TGGGATTGTG ACCTGGACAC CGGGGACTCT
10401 GGCTGCTGGC CTCACTACTC CTTCCAGCTG CAGGAGAAGA GCTACAACCT
10451 CAGGTGAGGC CCCACTGTCT CCAGTGCCCA GCTGCTGGGC CCATCGCCCT
```

FIGURE 3C

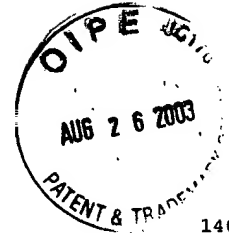
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AUG 26 2003
PATENT & TRADE

Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.

Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

```
10501 CTCACTGTGG CGGCCAGGAC AGACCACACC CAGGCCCAGG CCTCTAGATA
10551 TTCCACTACG TGTGCAAGGG GGTCCCAGGA GCAGGAGAGA GCTGTTCTCA
10601 ACCCCACATC CTCACGACACA GGCTCCGTCC TGCTGCCCCA AGTCCTGAGC
10651 CCTCCACCCC ATCTGTCCCA GGCCCTTGCC CAGCTCAGGC TCCTCACTGC
10701 CAGCCCTTCC TCCACCCAC CTCGCTTCTA GTATCTCCCC TCCACAGCAA
10751 TGGGGTGTTT CATTTTFACT TTCCCTTCTT CCCCTTCAGC TTTGTTTTTT
10801 TTTTTTTAAG ACAGAATCTC ATTCTGTAC CCAGGCTGGA GTGCAGTGGC
10851 CCGACCTCGG CTCACTGTAA CCTCTGCTTC CTGGGTTCAA CCGATTCTCC
10901 TTCCTCAGCC TCCTGAGTAG CTGGAATTAC AGGTGCTCGC CACTACTCCC
10951 AGCTAATTTT TATATTTTGG TAGATAGAGA TGGGTTTTCA CAATGTTGGC
11001 CAGGCTGGTC TCAAACCCCT GACCTCAGGT GATCCACCCA CCTCAGCCTC
11051 CCGAAGGGCT AGGATTACAG ACGTAAACCA CCATGCTCTG CCTCCCTTCC
11101 GCTTTTACCT AAACTTTTTT TTTTTTTTTG AGATGGAGTC TCACTCTGTC
11151 GCGGATGCTT GAGTACAGTG GCGGATCTC AGCTCACTGC AAGTTCGGCT
11201 TCCCGTGTTC ACGCCATTCT CCTGCCTCAG CCTCCCAAGT AGCTGGGACT
11251 ACGGGTGCAC GCCTCCACGC CCGGCTAATT TTTGCATTTT TAGTAGAGAC
11301 AGGGTTTCAC CATGTTGGCC AGGATGGTCT CGATCTCTTG ACCTCGTGAT
11351 CCACCTGCCT CAGCCTCCCA TAGTGCTGGG ATTACAGGCG TGAGCCACCA
11401 CCCCCGACCT TTTTTTTTGA AACGGAGTTT TCACCTTCTT GTAGTCCAGG
11451 CTGGAATGCA ATGGCGTGGT CTTGGCTCAC TGCAACCTCT GCCTCCTGGG
11501 TTCAGGTGAT TTTCCAGCCT CTGCCTCCAG AGTAGCTGGG ATGACAGGTG
11551 TGCACCACCA CACCCAACTA ATTTTGTAT TTTTAGTAGA GATGGTGTTC
11601 TGCCATGTTG GCCAGGCTGG TCTCGAACTT CTGACCTCAG GTGATCTGCC
11651 CACTTCAGCC TCCCAAAGTG CTGGGATTAC AGGCATGAGC CACCAAGCCT
11701 GTTTTTTTTT TGTTTTTTTT TTTTTTTTTT TTAGATGAAG TTTTGCTCTT
11751 GTTGCCGAGA CTGGAGTGCA GTGGCCCGAT CTCGGCTCAC TGCAATCTTT
11801 GCCTCTCGGG TCTCAAGCAAT TCTCTGCCT CAGCCTCCTG AGTAGCTGTG
11851 ATTACAGGTG CACACCACCA CACCCAGCTA ATTTTGTGT TTTTACTAGA
11901 GATGGGGTTT CACCATATTG GTCAGGCTGG TCTCGAACTC CTGACCTCAG
11951 GTGATCCACC TGCCTCAGCC TCCCAAAGTG CTGGGATTAC AGGTGTGAGC
12001 CACTGTGCTT GGCCTCAAGT TTCATAAATT GCATTTATTA TCATGTCTTT
12051 GAGTCTTCTA AGCAGATCTA TTGGATCCTT CTGCCACCGA GCGTCACCTC
12101 GTCATGCAGG CAGGCACACA CGACCACCAG GCCTGGGGAT GATCCCCCTC
12151 AACATAGCTC ACTGCACCCC GTCTGATCTG GCTTCCCCAA CCTCCCCAGC
12201 CCTTCGAAAC CACGTGGGGC TGGCTCCCA CACATCCTG TTCCCTGAC
12251 CTCTGTGCTG GCAAACCACC TGTGTGCATG TTCTTCAGG CCCAGCCTCA
12301 TGTCCCCTCC AGGAAGTCTA CCCCAGTTCC CAGGGAAGAG TGAGTTCCCA
12351 TCTCTGGAAT CCCTCAGCCC TGAGCCTGCC CCTTCACATC CCCCCTGCT
12401 GGGTCTGTTT AGGGACTCCT CTGTCCCCCG TCCTCTCAGC AGGCAGGGAA
12451 CTCTGAGGG ACAGGTCTTC GTTTGCTTTT TCTGTTTTCT CACCAATTAC
12501 ATAGGGCTGA GACCCAGGAC TCAGGCTTGG GCTGGGGGT TATAGAGTCA
12551 ATTGACAAGT TGGACAGAGG TCTGGCAGGG CCAGCCCCAC CTGGGGGTGG
12601 GCAAAGCAGG TCACCAGAGC CTTCTTCCCT GCCACAGGA CAGCCACTCA
12651 CTGGTGGGAG CAACCGGGTG TGGAGGCCCC CACCCTGCTC AAGCTCTATG
12701 GAATCCGCTT CGACATCCTC GTCACCGGGC AGGTAGGCAC AGGTAGGGGT
12751 CAGGCCGGGG ATGGGATGGG GCAGGCAGAC AGGGCTGGAG GAGGCATGAG
12801 GCTGACAGTC GTGGGCTGAG AGGTTAGCT CAGATCTCTC TCAGGCAGGG
12851 AAGTTCGGGC TCATCCCCAC GGCCGTCACA CTGGGCACCG GGGCAGCTTG
12901 GCTGGGCGTG GTGAGTGCGA GCACTGTGGG CACCTGCAGG CTGCAGTGAG
12951 TGCTGCTGAC CAGGGTGTGT CCAATGCATG CTGGAGCCTC CGGTGCCTGC
13001 ACATTGAGTC TCGGGGTGCA GGCTGGGGAG GTGGCAGGAG AGCAGGCTCG
13051 GGGGCTGGAA CATGGGTTGG CCCTGCCTCT CCCAGGTCAC CTTTTTCTGT
13101 GACCTGCTAC TGCTGTATGT GGATAGAGAA GCCCATTTCT ACTGGAGGAC
13151 AAAGTATGAG GAGGTGAGCT GAGGTCGCTC TGCTTGGACC CTGGGTTCTG
13201 CCACACTTAG GAAGATGTTG GCTGGATCCC TGACCTGCTG TCCTCATCTG
13251 CAGGCCAAGG CCCCAGAAAGC AACCGCCAAC TCTGTGTGGA GGGAGCTGGC
13301 CCTTGCACTC CAAGCCCGAC TGGCCGAGTG CCTCAGACGG AGCTCAGCAC
13351 CTGCACCCAC GGCCACTGCT GCTGGGAGTC AGACACAGAC ACCAGGATGG
13401 CCTGTCTCAA GTTCTGACAC CCACTTGCCA ACCCATTCGG GGAGCTGTGA
13451 GCCGTTCCCT GCTGGTTGAG AGTTGGGGGC TGGGAAGGGC GGGGCCCTGC
13501 CTGGGGATCT CAAGGATGAG GCCCCAGCAT GGAGGATTGG GGGTAGAATT
13551 CCACCCTTGA ACCCCAGCAG ACAGTCCCTC CCCTGACTCC CACCTTGGA
13601 GGGTGCTGCC TCAGGGAGCC ATAGAAGTCG GCTGTGTTTT GAGACGGCGA
13651 CAGAACCTGA CCCGTGGAGA CTGGGAGAGC CCAGCAGGCA CCTGTATTGC
13701 AGGGCTCCGA CTGCATGTGG CAGGGGCTCC TGCTGCGTCT GGGCTGGAG
13751 GTCTCTCTCC CAGTGCTCTG TCCCCAGTGT TCCTAGCAGA GGTATGCTTA
13801 CCAGCTGTCA GCACAGACCC TCCTGCTGCC TGGGTCTGG CCCTCTCCC
13851 CCATCTGCAC CCCCATCATA GGTAGAGACC CCACCCTCCC ATCGGTCCTA
13901 CATGGGGCTG TGCAGCTGGA GCCAAAAGG CAAGGTAGAA AGAGGAGTGA
13951 TGGGGGAGGG GGATTGTTTC AGCTTCTCTG GTGCTGTGAT GCCCCAGGAG
```

FIGURE 3D



14001 AGTCCTAATC TAGGGAATGG GGTGGAGTAG GCAGATAATC CACCTCCCTA
14051 TCCCCCAGGC AAGGGCGGAG CATGTGTCTT GGGCCACAC CTGCTTAGTT
14101 TATGAGGACC GGTGCTTTC CAGTGGTAGC CCTTTTGCCA TGGAGGTCTG
14151 GGAGAGAGAG CAGAGGGCGG CAGGGCTAAG TTGGTGATCA TTGGGTCTTT
14201 CAGGACCTTC TATATCCCTC CTCGGTAACC CCCAGCCCA ACCCTTGGA
14251 ATCTTTCTCT CAGGCTTCCT GAGAGCCCTG GGGGTGGGAG GCTGTGGGAG
14301 GCTGTACATC TGAAATTCAC TTCAGTCCA GTCATACCTA GGAAGCTGTC
14351 TGGGCAGCTG CTCGAGGGAG GCCCTGGCTC TGATCCCAGG CTGGATGGAG
14401 TGGCTGGAAG GAATGGTTCC AAACAACACC ACCGAGATCT CCCTCAGGCT
14451 GGCCAGGTTT TGCAGCTGGA ATTCTCCTCT TGGTCCCAGG GCGGGGCAGG
14501 GAATTCTAAG TGTCCACCCC AGGGAGGCAA GGGGCTGCTT TCCACTGTGG
14551 GTACCTGGTG ATCAGGGCAA GCTGTGGAGG GCCAGGGGTG GGGCTGAGAC
14601 TGGGCTGACA TCTAGAATCA CTGCCCACCT GGAGCCTCAG TAAATGSCCT
14651 GGGGTCCCTG CTGCCTCTCA ATCTCCAGAG CCATGTCCAT GGGGAGGTGG
14701 GCTCTGAAGG GCGAAGGTGG GAGAGCAGGG CCCCTGAGGC CTGGGTATCC
14751 AAGGAGGGGC ACGTGCACCT GATTCTCCTT GGGGCCCAGA GGAAGCTGAT
14801 GTCATGGCTG GACAAAGTCA CGGAGTAAAG CCAGCAAAGC CACCTCTTTC
14851 CTGTGTAGTC CTTACAGGCA TGA CTGGAAA GTTGGGGGGC ATCTATGGTA
14901 GACATGGCAC AGCATGAAG AGACCAGTGG GGTGGTGACG GGTGGACTTG
14951 GGGACCCTAC CCCTGAAGAC TGAGGCCCTG CAGCTACCAG GTGGGCTAGA
15001 AGGTAACCTG AACAGGCCCTG GGCACCTGTG CACCCATGTA GGAGCATGAG
15051 GGCCACACTC TTTTACCTC AAAGCCCTTG AAGAGTGGGC AAAGACAGCA
15101 AGAGAGCTGC AGCCTGGGCC CGAGCTCAGA AACAGCTGTC GCCTCAGTCT
15151 GCGCACAGGC ATGCACCCCA GGGTAGTGCC TGCAGGGATG CATGTGTCCC
15201 CGTGGGGGTG CTTGTGCCAG GCAGGCCTCA GGTGCATGCC ATGCTCAGAA
15251 CCCTGCTGCC CTTTCTAGGC AGCCTCCTTG GGGCCCAAGC TCTGCTCCCT
15301 GGATCTGGCA CTTAGCAGAC GTGGGGAGCC TGACCCCATG CCTGTCATGG
15351 AACCTCCTT GCCTGGTGTG TGTGGCTCCC CTCTTCACTG GGCACCTGGA
15401 TCAGGGCCA CTTGTGTCCC TGA CTAGGG GGTGCCAGG ACTGGCACCT
15451 ACTCTTTAGA GAGCCCCAGC ATCTTTGATG TGGATTGGAG ACAATTGCCT
15501 GGTTCCTTGG GGCAGGTGAA GACTTGGTGC CACAAAGAAT GCCACAGTGG
15551 ATACGCCAGC AGGCCACATG GCTGGCCAAG CAATTATTAT TATGGATCCC
15601 TTGGGCTGTG GGCCTTCCCA TCCACCCAC CACAACTGCC CAGGTAGCTG
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15701 CAGCCAAGGC CCACTCCTGA AGACCCGAAG CCCAGCCCTT GGATGAAGGT
15751 CTAAGGTCC TGAGGACTCC CCAGCCTGTG CAGGCCTGCA AACCAGGCT
15801 GCCACAACA GAAGGGGCTC TCGGCTTGTC TGGCCTCTCT GGCCTCCCA
15851 GCAGGTGTGG GAGGGCGGG CAAGTGTGG CTGATCAGCT ACTCCATATG
15901 GCCAGGGTCC TGTGCTGGTG CCTGGCTGGG GGGCTGCATA GCCTGCAGT
15951 TCTCCTCCAG GCTGCCCTG GGAATACCA CGTAGTGTGT GGAGTTCAGC
16001 CCTGGCAGCT CCCGCTGGT CTCCTTGCTA TGCCGGATGC CATAGCCGAA
16051 ATACACTGCA AGTCCTAGAC AGGGCAGGAG GCAGGGCATG AGCCTGAGGT
16101 ACAGGTTCCA GCCCTTCTG TCCTCTTTC CCTCCTCTG ACCCGGTCC
16151 CAGCCTGGCC CCCACTCACC CATCAGCAGC CAGATGGAGA AGCGCACCCA
16201 GGTGAGATAG CTAAGTTTCA GCATGAGGCA GATGTGAGG ACGATGCTCA
16251 GGGCTGGAAT CAGGGGAACC ATGGGGATCT GAGGAGGCAG AGGCAAGGCA
16301 GGGCTGGGCC GGGCTGCAGG AAAGATCTGC CAGCCAGGG CTCACTTTCT
16351 CGGGAATCCA TAGAGCCTTT GTTCTCACG GGAGATTGTG GAGACATGTG
16401 CTCACTCACC ATGCAGAAAG GGGTGCGGGA TGGGTGTGTG GTCCTCCCC
(SEQ ID NO: 3)

FEATURES:

Start: 2040
Exon: 2040-2095
Intron: 2096-2776
Exon: 2777-2927
Intron: 2928-4822
Exon: 4823-4894
Intron: 4895-9510
Exon: 9511-9586
Intron: 9587-9776
Exon: 9777-9870
Intron: 9871-9952
Exon: 9953-10033
Intron: 10034-10109
Exon: 10110-10251
Intron: 10252-10343
Exon: 10344-10453
Intron: 10454-12638
Exon: 12639-12732

FIGURE 3E

AUG 26 2003

PATENT

Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.
Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

Intron: 12733-12844
Exon: 12845-12910
Intron: 12911-13085
Exon: 13086-13163
Intron: 13164-13253
Exon: 13254-13448
Stop: 13449

SNPs:

DNA Position	Major	Minor	Domain	Protein Position	Major	Minor
136	C	T	Beyond ORF (5')			
253	T	C	Beyond ORF (5')			
573	C	T	Beyond ORF (5')			
2000	A	G	Beyond ORF (5')			
2222	G	C	Intron			
2783	G	T	Exon	21	A	A
3199	G	A	Intron			
3307	C	G	Intron			
5012	C	G	Intron			
6169	G	C	Intron			
7647	A	G	Intron			
8638	C	T	Intron			
9409	T	G	Intron			
10504	A	C	Intron			
10971	T	-	Intron			
12609	G	A	Intron			
13367	T	A	Exon	378	T	T
14191	T	C	Beyond ORF (3')			
14227	A	G	Beyond ORF (3')			
15027	T	C	Beyond ORF (3')			
15441	A	C	Beyond ORF (3')			

Context:

DNA
Position

136	TCTCCAAGTCCATGGGTGCCTGGTAGGAGACAGGGGGATGAATGTGAACCCCTGCATGGC TATAGCCACCTGCCTCCTCCCTGCCCCTGCATCACTACCTGGCCTATTTTTCCTCTAG AAGCACTGCTTCCTA [C, T] GCTCCTTAGGACCACTGCCCGCATATGACAGATAAGAACATCGAGGCTAAGGCAACGCAA ATCTTTTCTTAAAGTCATACAGCTGTCAAAAGAAAGCTGGACAACCTGGGCAACATAGC GAGATAAAAAAATTATTTAAATTAGCCAGATGTGGTAGCCCCCTGTAGTCTCAGCGACTCA GGAGGCTGAGGCAGGAGGCTCACCAGAGTGCAGAGTTCAAGGATGCAGTGAGCTATGATC CTGCCACTGCACTGAAAGCTGGGTGACAGAGCAAGACCCTGGCTCTAATAAATGAATACA (SEQ ID NO:5)
253	TCTCCAAGTCCATGGGTGCCTGGTAGGAGACAGGGGGATGAATGTGAACCCCTGCATGGC TATAGCCACCTGCCTCCTCCCTGCCCCTGCATCACTACCTGGCCTATTTTTCCTCTAG AAGCACTGCTTCCTATGCTCCTTAGGACCACTGCCCGCATATGACAGATAAGAACATCGA GGCTAAGGCAACGCAAATCTTTTCTTAAAGTCATACAGCTGTCAAAAGAAAGCTGGACA ACCTGGGCAACA [T, C] AGCGAGATAAAAAAATTATTTAAATTAGCCAGATGTGGTAGCCCCCTGTAGTCTCAGCGAC TCAGGAGGCTGAGGCAGGAGGCTCACCAGAGTGCAGAGTTCAAGGATGCAGTGAGCTATG ATCCTGCCACTGCACTGAAAGCTGGGTGACAGAGCAAGACCCTGGCTCTAATAAATGAAT ACATAAAGTCTCAGAGTAGTGGTAGCTAATCCTGCCAGAGTCAGGCCTCTACCTGTCTG ATGACAAATGGCACACTATGTCTTTTAACTGATTGCAGACCACAAATGTTTGTGAATA (SEQ ID NO:6)
573	TAAATTAGCCAGATGTGGTAGCCCCCTGTAGTCTCAGCGACTCAGGAGGCTGAGGCAGGA GGCTCACCAGAGTGCAGAGTTCAAGGATGCAGTGAGCTATGATCCTGCCACTGCACTGAA AGCTGGGTGACAGAGCAAGACCCTGGCTCTAATAAATGAATACATAAAGTCTCAGCTA GTGGTAGCTAATCCTGCCAGAGTCAGGCCTCTACCTGTCTGATGACAAATGGCACACTAT GTCTTTTAACTGATTGCAGACCACAAATGTTTGTGAATATTTTCCCGAGGAAAAAAC [C, T]

FIGURE 3F



Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.
Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

GGAGTAGTTCTAAATCTATACATCCATTATATTAGTTTACCTGTGGATTGGGAAAC
CCAGCTCTGATTGCATTTACGGGCGGGACAGCCTTTGGTGCACGTCTGGCGGGATTTTC
CATTTTAACTCCTTCTAGAAGCGCCTTCTCATGGTAAAGTTCTGATGCCGCCAGGAGC
GCCGAGGAGAGGGCAGGGGGCTGGAGACGCCCCGAGAGGGCTACGTGCCCTGCTGGACA
GAGTCTCTGCTCCTCGGCGGCCAGCCACCTCCCAACAACCCCTGCGGGAGAAGCC (SEQ ID NO:7)

2000 CTCCTCTCACAGCACTGATAACAGCTGTCCGTCTCCACCCTCCCACCACCTCCACTCCCA
CCCCAGGAAGTGAGGCCAGAGGGCAGGGACAGAGCTGCTGCTGTTCTCTGTGTGCCAGGG
CCCAGCAAAGGGAATGTAGGGAGGGTGGGAGGTGCAGGGCAGCTGGGATTAGGGGTTGAG
GGCTGGGTGTTGGAGGCTGGATCTGGATCCTGCTTTAGTGGAAGTGTCCCTTTAACAGCA
ACTGGCCTGGCCTGGCTCGGGCCCTGCTTTGCCCTCCTGTTTCAGCTGCGGCTGCAGCTGCC
[A, G]
TGCTGACTCATGTGCCCGCAGCTAGCAGGAGCTGGCAGCATGGGCTCCCAGGGGCTACG
ACAGGCTGGGGGCTTCTGGATTATAAGACGGAGAAGTATGTGATGACCAGGAAGTGGCGG
GTGGCGCCCTGCAGAGGCTGCTGCAGTTTGGGATCGTGGTCTATGTGGTAGGGTAAGAG
AGAAGAGCTTTTGGCCAGGCTGGAGGGGCAAGGAAGAGGTGGGGGTGGGGCTTGGTCC
TGCTGGGTGAAGTTGAGGGTTGGGCTGTTTAGGGGCTGGAGTGAAGGGGCGAGATTGG (SEQ ID NO:8)

2222 AGTGTCCCTTTAACAGCAACTGGCCTGGCTGGCTCGGGCCCTGCTTTGCCTCCTGTTCA
GCTGCGGCTGCAGCTGCCATGCTGACTCATGTGCCCGCAGCTAGCAGGAGCTGGCAGCAT
GGGCTCCCCAGGGGCTACGACAGGCTGGGGGCTTCTGGATTATAAGACGGAGAAGTATGT
GATGACCAGGAAGTGGCGGGTGGGCGCCCTGCAGAGGCTGCTGCAGTTTGGGATCGTGGT
CTATGTGGTAGGGTAAGAGAGAAGAGCTTTGGCCAGGCTGGAGGGGCAAGGAAGAGGT
[G, C]
GGGGGTGGGGCTTGGTCTGCTGGGTTGAAGTTGAGGGTTGGGCTGTTTAGGGCTGGAG
TGGAAGGGGGCAGATTGGGACGGGGTTGGGGAGAGCTAGGCGATACAAGACAGGAGAGCA
AGAACAAGCTGTGTGTTTGTCTGTGTGCCACTGCGCTCCTTCCAGGCCCCACCCAG
GCCCCACCCAGGGGGCACATGACATAGTCTTAACATCTGTGAGAGCTGGAGCACTAGGC
CCCCAGAGAGACCACAGCTGTATCTCGGGTCAGGAGAGTCTGTAAGGGGAAGCTGGAT (SEQ ID NO:9)

2783 GTATCTCGGGTCAGGAGAGTCTGTAAGGGGAAGCTGGATCTAGTCAGGCTGGGGGTGGG
TGCTGGCTAGTGAAGGTGATTGTCTGAGGGCATTGGCTCTCTGATGCATGGCTGGAGCTT
CTGTCTCATTCAGGGGCTGAGGTGGGAAGTGGGGCCAGAGAGAGGTGGGGCCTTCGA
TGTTGGGCGGGAGCCTGTAGGGTGTGGGGGAGAACTGAGCATGTAGGGCTCAGCTCCG
CCCCTGTCACTACAGCTGGGGACACACCACACTGCCCCACTTCTCCTCCCCAGGTGGGC
[G, T]
CTCCTCGCCAAAAAGGCTACCAGGAGCGGGACCTGGAACCCAGTTTTCATCATCACC
AACTCAAAGGGGTTTCCGTCACTCAGATCAAGGAGCTTGGAAACCGGCTGTGGGATGTG
GCCGACTTCTGTAAGCCACCTCAGGTGGGGCCCTGATGTTGCTGACGGGGGCGCAAGTC
CTTCCCCACTGACAGCCTGAACACCCGCCATGCAGCCAGTGTGTGCGAGAGAGAAGCAT
GTGATGCCAGAGACGGCTGCGGGTCTCAGGAAGGGCTTCACAGAGGAGTGGCACCTGGA (SEQ ID NO:10)

3199 ATGTGGCCGACTTCGTGAAGCCACCTCAGGTGGGGCCCTGATGTTGCTGACGGGGGCGC
AAGTCTTTTCCCCACTGACAGCCTGAACACCCGCCATGCAGCCAGTGTGTGCGAGAGAGA
AGCATGTGATGCCAGAGACGGCTGCGGGTCTCAGGAAGGGCTTCACAGAGGAGTGGCAC
CTGGACAGGACTTTCAGGGATGTGTAGGAGGTTTGGGGTGGAAAAAGGGGCCACTCAAG
AAGCCAGGCCAGGGTTGGACGTGCTGGCTCACGCCTGTAATCCAGCACTTTGGGAGGCC
[G, A]
AGGCAGGTGGATCACGAGATTGAGAGTATCCTGGCTAACACCGTGAAACCCCATCTCTAT
TAAAAATACAAAAAATTAGCCGGGCATGGTGGTGGGCGCCTGTAGTCCAGCTACTCGGG
AGGCTGGGGCAGGAGAATGGCATGAACCCGGGAGGTGGAGCTTGCAGTGAGCCGAGATTG
CACCACCTGCACTCCAGCCTGGGTGGCAAAGCGAGACTGTGTCTCAAAAAAAAAAAAAA
AGCCAGGCCAGAGAACTGCATTTCAAAGACTGCCAACAGAAAAGAGGGAGTGTCCAG (SEQ ID NO:11)

3307 GTGCGAGAGAGAAGCATGTGATGCCAGAGACGGCTGCGGGTCTCAGGAAGGGCTTCACA
GAGGAGTGGCACCTGGACAGGACTTTCAGGGATGTGTAGGAGGTTTGGGGTGGAAAAAG
GGGCCACTCAAGAAGCCAGGCCAGGGTTGGACGTGCTGGCTCACGCCTGTAATCCAGCA
CTTTGGGAGGCCGAGGCAAGTGGATCACGAGATTGAGAGTATCCTGGCTAACACGGTGAA
ACCCCATCTCTATTAAAAATACAAAAAATTAGCCGGGCATGGTGGTGGGCGCCTGTAGTC
[C, G]
CAGCTACTCGGGAGGCTGGGGCAGGAGAATGGCATGAACCCGGGAGGTGGAGCTTGCAGT
GAGCCGAGATTGCACCACTGCACTCCAGCCTGGGTGGCAAAGCGAGACTCTGTCTCAAAA
AAAAAAAAAAAAAGCCAGGCCAGAGAACTGCATTTCCAAAGACTGCCAACAGAAAAGAA
GGGAGTGTCCAGGACTAATGGCTTGAGCTTGAGAGTGGTGTGAGGTGCTGGGGCATGGAA
CTTCCCTGTAGCCCTGCTCCCTGACCTGGGGCACTACGGTCAGGTGCTGCTCCTCCCTC (SEQ ID NO:12)

5012 TTAATGACTTGATGGGGCAACATCCCTTCCCTCATAAACAGGCTGCCGGCTTCCGGCC
TTTCCAGTCAACACGAGCCAGCCAGGCCAACCTTGAGACTTGCTCCTAGGGAGAGAAC
GTGTTCTTCTTGGTGACCAACTTCTTGTGACGCCAGCCCAAGTTCAAGGCGAGATGCCCA
GAGGTGAGTTTACCAGGATCCTCCAGCGGGTCCCTTGTTCTCCATCAGCCCCAGGTG

FIGURE 3G



Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.
Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

6169 GCCACCCGTTGTTCCCTTTCCCTTTCCACGGTGGCTGAAGGCTCAGCCTGTGCTCGGTGT
[C, G]
CCCCAGGCACTGGGCTACATCTTTTCTGAATCATTATGTTTCTTACATATCCCCT
GCCTGGTAGGAAGTCTGTGATCCCCATTTCAGAGGAGAAGACTGAGGCTCAGTGAGGTT
GAGTCACTTTCTTAAGGCCCTCCAGGCCCTGTGGGTGACAGGACCCGAGCTCTGGGCAGCA
GCAGTTCCCATGAGGTGTCCAGGCCCTCCCATCCTGGTCTGCTCTGGGTACTCTCCAG
GTTGGTAGTGTGACACCCAGAGCTGCGCACATGCTCAGGGAGGTTCTAATAGCAAGAGCC (SEQ ID NO:13)

6169 CTTGCCTGGGGATGTCCCTGGGATCCTGTCATCTGTACAGAGCATGCTCATTCTCTCCAG
CTGTGAATTTTGTGTTGAACATTTGGGACTCAGGACATAGTCTGAAAGTTTACCTCCACA
GTGACATCTTTAGGCAAGTCCAACATTTACGTGCTCCTGGGCTGGAGGGTCTGTGTGCA
GACAGCTGTCCCCTGAGCCCTGGTGGCTGGTCTAGCACAGTTGCTGGAGACATCCCATG
TCCGTAGTTGGAAATATGCACAAAGGATTGCTTACTCTTTTGTGTTGTTGTTTGTGTTGA
[G, C]
ATGGAGTCTTGCTCTTGTCCCAAGGCTGGAGTTCAATGGCACGATCTCGGCTCACTGCA
ACCTCCGCCTCCTGGGTTCAAGCAGTTCTCCTGCTACCCCCCTGAGTAGCTGGGATTACA
GGTGCCCGCACTGTGCCAGCTAATTTTGTATTTTAAAGTAGAGACGGGGTTTACCAT
GTTGGCCAGGCTGGTCTCGAACTCCTGGCCTCAGGTGACCCACCAGCCTCGGCCTCTCAA
AGTGCTGGGATTACAGGCGTGAGCCTGCCGAGAGCTTGGTCGGGGAGACCTGAACCCAGC (SEQ ID NO:14)

7647 AGGTGGCAGGTCCGATGATGGGACAGAGGCTGTAGGTGGGGGACCTAGGGCTGCACCTGA
GCAGAATCTTTTTTTTTTTTCTTTTTTTTTTTTGGAGACAGAGTCTCGCTCTGTGAC
CCAGGCTGGAGTGCACTGGCGTGATCTCGGCTCACTGCACACCTCCACCTCCTGGTTCA
AGCGATTCTCCTGCCTCAGCCTCCCAAGTAGGTGGGACTACAGGCACACACCACACT
CGGCTAATTTTGTATTTTAAATAGAGACAGGGTTTGTCTGTGTCGGCCAGGTGGTCTC
[A, G]
AACTCCTGACCTCAGGTAATCCGCCACCTTGGCTTCTCAAAGTGTGGGATTACAGGTG
TGCCAGGCCAAGCAGAATCTTAAAAAAGGTGGGGAGAAGCTGGTGAGCAGGTGGATTG
GTTGAAGCAGGATGTGACACAGAGGGGGCTTGGTGGGTAAAGGCCCTGAGCTGTGTGAG
GTGAGGTGCCTTTAGGGCTACCTGCCACTGGGTGGAGCTGAAGTGAAGATTGGACTGGG
GTGGGAAGAAGGTAGTTTCAAGATTTCAGGGGCCCTGTAAGCCCCACTAAGGAGCTAAAC (SEQ ID NO:15)

8638 ACAAGAAGCAGAGCATGTGGCTCTGCTCCGACCTCCACCCAATCACGACGGCCCTGTCT
TTCAGAAAGTCCCACCGCTCATTCTGGCTTCTCAGAGGCCCTCAGCCTTCTTGGCGCC
CTGGTCTGGGTGTTCTTCTGCTGCCCTGAGCTGAGTGCCCTGGGCAGCAGTGTCCATC
CTCAGTTGGGGCAGGACCATGCTGGGAGAGTGCCCGATGCTCAAGGGTGCCTTCGTCTC
TGGGGTCTGGGACCCAGAAAGCTCACCTGTCTCTCCCTTCTGCCAGAGCCCATAGTCC
[C, T]
ATGCCTCTGTGACGCGATTAAATGTCCCCAGGTTACAGAAGAGCGAGCAGGAAGGAGTAGC
CTGTGGTCCCTCAGCAAGGGTGTGGGGTCTGCTTCAATACCAAGCCCTGACTCTAGG
GCCTGATCTTTGTGAGCTATGTCCCATGCGGGCATCAAAACTCACCTCCCAAGGT
ATCTTACCTTCCCTGATCTGTCTATCCAAATTGGACCAGAGGAGCTAGACCTGGAAGAAAT
CACTTCCGCATCCACAGGGACAGAAGTGTGAGGAGGAAGGGGAGGGTGGCTTGTCTC (SEQ ID NO:16)

9409 TGAGGTGAGAGGATTGCTTAAGCCCGGAGGGGAGGCTGTAGTGAGCCATGATCATACC
ACTGCACTAGAGCCTGGACAACAGAGTGAGACCGAATCACTAAAAATAAATTTTGTAAA
AAGGAGGAAGGGGTCTCCCTTTGTCTTTGAAATACAGTACTGTACTCTTCTGCGCCAG
GGCATTGCTCCGCTCCCTCTGACCCACTCTTTTATTGACCCCTCCAGCTTTCTG
TGTGGCCCCACACTCAGGGTACTCTGCGCGGGGGTGGTGAGGTTGTTAAGGTGGGAAG
[T, G]
GGGCCTGTCTTCCACCTTGAACCTCCTGCTTTGAGACTGGGCTGTGGAGGGGAGAC
ATCCCCCTGTGCCATTGGTGACTGCTCTCTCTCCACCTCAGCACCCGTCGCTCCCACTGG
CTAACTGTGGGTGACGAGGACTGCCCCGAAGGGGAGGGAGGCACACAGCCACGGTA
ACTGTGGGCTCTGTCTTCCAGTGCCCTAGCAGGGTGGGGGCGGGGCTGGGATCCTGGGT
GGCTCCTGAGTGACGGCCCTGCTCGCCTCTGTCCCTGATCTCTTCTGCAACAACC (SEQ ID NO:17)

10504 GACCTCGTGGCCAAGGCTGGAGGGACCTTCGAGGACCTGGCGTTGCTGGTGGGTCCCAAG
TTGGGGGAGGGTCTCTAGAGGGCTCTGGGAGAGGGTCCCGGGGCCACCCACCGGTGGAA
AAGCTATGTGCTATGTGAGGGTGGCTCTGTAGGCATCAGAGTTCACTGGGATTGTGACC
TGGACACCGGGGACTCTGGCTGCTGGCCTCACTACTCTTCCAGCTGCAGGAGAAGAGCT
ACAACCTCAGGTGAGGCCCACTGCTCCAGTGCCAGCTGCTGGGCCATCGCCCTCTC
[A, C]
CTGTGGCGGCCAGGACAGACCACCCAGGCCAGGCTCTAGATATTCCACTACGTGTG
CAAGGGGGTCCAGGAGCAGGAGAGAGCTGTTCTCAACCCACATCCTCCAGCACAGGCT
CCGTCTGCTGCCCCAAGTCTGAGCCCTCCACCCATCTGTCCAGGCCCTGCCCCAGC
TCAGGCTCCTCACTGCCAGCCCTTCTCCACCCACCTCGCTTCTAGTATCTCCCCCTCA
CAGCAATGGGGTGTTCATTTTACTTTCCCTTCTCCCTTCAGCTTTGTTTTTTTTTTT (SEQ ID NO:18)

10971 GGCCCCTGCCAGCTCAGGCTCCTCACTGCCAGCCCTTCTCCACCCACCTCGCTTCTA
GTATCTCCCTCCACAGCAATGGGGTGTTCATTTTACTTTCCCTTCTCCCTTCAGC

FIGURE 3H

TTTGTGTTTTTTTTTTTAAAGACAGAATCTCATTCTGTCACCAGGCTGGAGTGCAGTGGC
CCGACCTCGGGCTCACTGTAACCTCTGTCTTCCTGGGTTCAACCGATTCTCCTTCCTCAGCC
TCCTGAGTAGCTGGAATTACAGGTGCTCGCCACTACTCCAGCTAATTTTTATATTTTGG
[T, -]
AGATAGAGATGGGTTTTCACAATGTTGGCCAGGCTGGTCTCAAACCCCTGACCTCAGGTG
ATCCACCCACCTCAGCCTCCCCAAGGGCTAGGATTACAGACGTAACACCACTGTCTGCG
TCTCCCTTCGCGCTTTTACCTAAACTTTTTTTTTTTTTTTGAGATGGAGTCTCACTCTGTGC
CCAGGCTGGAGTACAGTGGCGGGATCTCAGCTCACTGCAGTTCGCGTTCCCGTGTTCAC
CGCCATTCTCTGCTCAGCCTCCCAAGTAGCTGGGACTACGGGTGCACGCCTCCACGCC (SEQ ID NO:19)

12609 CCAGGAAGTCTACCCAGTTCACAGGGAAGAGTGTAGTTCATCTCTGGAATCCCTCAGC
CCTGAGCCTGCCCCCTTACATCCCCCGCTGCTGGGTCTGTTTAGGGACTCTCTGTCCCC
CGTCTCTCAGGACCGCAGGAACTTCTGAGGGACAGGCTCTGTTTGTCTTTTCTGTTTT
CTCACC AATTACATAGGGCTGAGACCCAGGACTCAGGCTTGGGCTGGGGGTTTATAGAGT
CAATTGACAAGTTGGACAGAGGTCTGGCAGGGCCAGCCCCACCTGGGGGTGGGCAAAGCA
[G, A]
GTCACCAAGAGCCTTCTTTCTGCCACAGGACAGCCACTCACTGGTGGGAGCAACCGGT
GTGGAGGCCCCGACCCCTGCTCAAGCTCTATGGAATCCGCTTCGACATCTCTGTACCCGGG
CAGGTAGGCACAGGTAGGGGTGAGGCCGGGGATGGGATGGGGCAGGCACAGGGCTGGA
GGAGCATGAGGCTGACAGCTGTGGGCTGAGAGGTTCACTCAGATCTCTCTCAGGCAGG
GAAGTTGGGGCTCATCCCCAGGCCGTACACTGGGCACCGGGCAGCTTGGCTGGGGCT (SEQ ID NO:20)

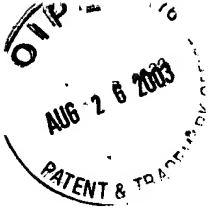
13367 TTGGCCCTGCCTCTCCCAGGTCACCTTTTTCTGTGACCTGCTACTGCTGTATGTGGATAG
AGAAGCCCATTTCTACTGGAGGACAAAGTATGAGGAGGTGAGCTGAGGTGCTCTGCTTG
GACCTCGGGTTCTGCCACACTTAGGAAGATGTTGGCTGGATCCCTGACCTGCTGTCTCA
TCTGCAGGCCAAGGCCCGAAAGCAACCGCCAACTCTGTGTGGAGGGAGCTGGCCCTTGC
ATCCCAAGCCCGACTGGCCGAGTGCCCTCAGACGGAGCTCAGCACCTGCACCCACGGCCAC
[T, A]
GCTGCTGGGAGTCAGACACAGACACCAGGATGGCCCTGTCCAAGTCTGTACACCCACTTG
CCAACCATTCGGGAGCCTGTAGCCGTTCCCTGCTGTTGAGAGTTGGGGGCTGGGAAG
GGCGGGGCCCTGCCTGGGGATCTCAAGGATGAGGCCCCAGCATGGAGGATTGGGGGTAGA
ATTCCACCTTGAACCCCGACGACAGACAGTCCCTCCCTGACTCCCACTTGGTAGGGGTGCT
GCCTCAGGGAGCCATAGAAGTCGGCTGTGTTTTGAGACGGCGCAGAACCTGACCCGTGG (SEQ ID NO:21)

14191 ATCGGTCTCATATGGGGCTGTGCAGCTGGAGCCAAAAAGGCAAGGTAGAAAGAGGAGTGA
TGGGGGAGGGGATTGTTTCAGCTTCTCTGGTGCTGTGATGCCCCAGGAGAGTCTTAATC
TAGGGAAATGGGGTGGAGTAGGCAGATAATCCACCTCCCTATCCCCAGGCAAGGGCGGAG
CATGTGTCTTGGGCCACACCTGCTTAGTTTATGAGGACCGGCTGCTTTCCAGTGGTAGC
CCTTTTGCCATGGAGGTCTGGGAGAGAGACAGAGGGCGGACAGGCTAAGTTGGTGTATCA
[T, C]
TGGGTTCCTCAGGACCTTCTATATCCCTCCTCGGTAACCCCCAGCCCAACCCCTTGGAA
TCTTTCTCCAGGCTTCTGAGAGCCCTGGGGGTGGGAGGCTGTGGGAGGCTGTACATCT
GAAATTCACTTCAGTCCAAGTCATACCTAGGAAGCTGTCTGGGACAGTGTCTGAGGGAGG
CCCTGGCTCTGATCCAGGCTGGATGGAGTGGCTGGAAGGAATGTTCCAAACAACACCA
CCGAGATCTCCCTCAGGCTGGCCAGGTTTTCAGCTGGAATTCCTCTTGGTCCAGGG (SEQ ID NO:22)

14227 AAGGCAAGGTAGAAAGAGGAGTGATGGGGGAGGGGATTGTTTCAGCTTCTCTGGTGCTG
TGATGCCCCAGGAGAGTCTTAATCTAGGGAATGGGGTGGAGTAGGCAGATAATCCACCTC
CCTATCCCCCAGGCAAGGGCGGAGCATGTGTCTTGGGCCACACCTGCTTAGTTTATGAG
GACCGGCTGCTTTCAGTGGTAGCCCTTTTGCATGGAGGTCTGGGAGAGAGAGCAGAGG
GCGGCAGGGGCTAAGTTGGTGATCATTTGGGTCTTCAGGACCTTCTATATCCCTCCTCGGT
[A, G]
ACCCCCAGCCCAACCCCTTGGAACTTTCTCCAGGCTTCTGAGAGCCCTGGGGTGG
GAGGCTGTGGGAGGCTGTACATCTGAAATTCATTCACTGCAAGTCATACCTAGGAAGCT
GTCTGGGCAGCTGCTCGAGGGAGGCCCTGGCTCTGATCCCAGGCTGGATGGAGTTGGCTGG
AAGGAATGGTTTCCAAACAACACCCAGAGATCTCCCTAGGCTGGCCAGGTTTGGCAGCT
GGAATTCTCCTCTTGGTCCCAGGGCGGGGAGGGAATCTAAGTGTCCACCCAGGGAGG (SEQ ID NO:23)

15027 AGGGCCCCCTGAGGCCTGGGTATCCAAGGAGGGGCACGTGCACCTGATTCTCCTTGGGGCC
CAGAGGAAGCTGATGTTCATGGCTGGACAAAGTCACGGAGTAAAGCCAGCAAAGCCACCT
CTTCTGTGTAGTCTTTACAGGCATGACTGGAAGTTGGGGGGCATCTATGGTAGACATG
GCACAGCCATGAAGAGACCAGTGGGGTGGTGCAGGGTGGACTTGGGGACCCTACCCCTGA
AGACTGAGGCCCTGCAGCTACCAGGTGGGCTAGAAGGTAAGTGGAAACAGGCCTGGGCACT
[T, C]
GTGCACCCATGTAGGAGCATGAGGGCCCACTCTTTTCACTCAAAGCCCTTGAAGAGTG
GGCAAAGACAGCAAGAGAGCTGCAGCCTGGGGCCGAGCTCAGAAACAGCTGTCCGCTCAG
TCTGCGCACAGGCATGCACCCAGGGTAGTGCCTGCAGGGATGCATGTGTCCCCGTGGGG
GTGCCTGTGCCAGGCAGGCCTCAGGTGCATGCCATGCTCAGAAACCTGTGCCCCCTTCTA
GGCAGCCTCCTTGGGGCCCAAGCTCTGCTCCCTGGATCTGCCACCTAGCAGACGTGGGGA (SEQ ID NO:24)

FIGURE 3|



Docket No. CL001202
Application Serial No. 09/820,095
Inventors: Ming-Hui WEI et al.
Title: ISOLATED HUMAN G-PROTEIN COUPLED RECEPTORS...

15441 GCCTCAGTCTGCGCACAGGCATGCACCCCAGGGTAGTGCCTGCAGGGATGCATGTGTCCC
CGTGGGGGTGCCTGTGCCAGGCAGGCCTCAGGTGCATGCCATGCTCAGAACCCTGCTGCC
CTTTCTAGGCAGCCTCCTTGGGGCCCAAGCTCTGCTCCCTGGATCTGCCACCTAGCAGAC
GTGGGGAGCCTGACCCCATGCCTGTCTATGGAACCCTCCTTGCCTGGTGTGTGGCTCCC
CTCTTCACTGGGCACCTGGATCCAGGCCCACCTGTGTCCCTGACTCAGGGTGGTCCCAGG
[A, C]
CTGGCACCTACTCTTTAGAGAGCCCCAGCATCTTTGATGTGGATTGGAGACAATTGCCTG
GTTCCCTGGGGCAGGTGAAGACTTGGTGCCACAAAGAATGCCACAGTGGATACGCCAGCA
GGCCACATGGCTGGCCAAGCAATTATTATTATGGATCCCTTGGGCTGTGGGCCTTCCCAT
CCACCCACCACAAC TGCCAGGTAGCTGGAGCTGATCATAACAAGAAGGCTCTGGGCA
GAGTCCATGGCACCAGCACCAGCCAAGGCCCCTCTGAAGACCCGAAGCCAGCCCCTG (SEQ ID NO:25)

Chromosome map:
Chromosome No: 22

FIGURE 3J